

REMARKS

Claims 1-21 and 39-46 are pending. No new matter will be incorporated into the present application by entry of this Amendment. If the Office determines that any additional fees are deemed to be necessary with the filing of this Amendment, then the Office is authorized and requested to charge such fees to Deposit Account No. 061910.

The Examiner has required restriction to one of the following groups under 35 U.S.C. § 121:

I. Claims 1-21 and 39-46, stated by the Examiner as being drawn to a method of processing a sheet like substrate; or

II. Claims 22-38 and 47, stated by the Examiner as being drawn to a coater.

Applicant confirms the provisional election of Group I (claims 1-21 and 39-46) with traverse. The claims of Groups I-II meet the requirements for consideration in a single application, *inter alia*, in that they each relate to a coater having an ion gun positioned beneath the path of substrate travel. Further, Applicants traverse the restriction requirement on the grounds that no serious burden on the Examiner exists. If the search and examination of an entire application can be made without serious burden, it must be examined on the merits even though it includes claims directed to distinct or independent invention. M.P.E.P. § 803. The subject matter of Groups I and II are believed sufficiently related that a thorough search for the subject matter of either group would encompass a search for the subject matter of both groups. To avoid duplicative examination by the Patent Office and unnecessary delay and expense to Applicants, Applicants respectfully request examination on the merits of all the claims, not just those of Group I.

Furthermore, Applicants submit that if a determination of an allowable generic claim is issued, claims that are written in dependant form or otherwise include all the limitations of the allowed generic claim should be considered. M.P.E.P. § 809.02(c). Therefore, Applicants respectfully request that the Examiner consider rejoining the claims of Group II and the claims of Groups I upon a finding of allowability of the claims of Group I.

The Examiner rejected claims 1-9, 12-21, 39-42 and 45-46 under 35 U.S.C. 103(a) as being unpatentable over Krisko (WO 00/37377) in view of Yasar (U.S. Patent. No. 5,958,134). Applicant respectfully disagrees with the Examiner's rejection and requests reconsideration in light of the following arguments.

The Examiner bears the initial burden in establishing a prima facie case of obviousness when rejecting claims under 35 U.S.C. §103. If the Examiner does not produce a prima facie case, the applicant is under no obligation to submit evidence of non-obviousness. To properly establish a prima facie case of obviousness, MPEP § 706.02(j) identifies three basic criteria that must be met. First, the prior art reference (or references when combined) must teach or suggest all of the claim limitations. Second, there must be some suggestion or motivation in the references themselves or in the knowledge generally available to one of ordinary skill in the art to modify the reference or combine reference teachings. Finally, there must be a reasonable expectation of success.

A prima facie case of obviousness has not been established because the references fail to teach or suggest all of the claim limitations. Independent claim 1 recites: “providing a coater adapted for applying coating onto the substrate, the coater comprising... a downward coating apparatus positioned *above* the path of substrate travel, and an ion gun positioned *beneath* the path of substrate travel, wherein the ion gun is at a location further along the path of substrate travel than the downward coating apparatus”. Likewise, independent claim 39 recites: “providing a coater adapted for applying coating onto the substrate, the coater comprising a substrate support defining a path of substrate travel extending through the coater, wherein an ion gun is positioned *beneath* the path of substrate travel, and wherein an upward coating apparatus is positioned *beneath* the path of substrate travel at a location further along the path of substrate travel than the ion gun”. Neither Krisko nor Yasar, alone or in combination, disclose any of these elements.

This point is illustrated in more detail with reference to Yasar’s Figures 1 and 2, illustrated below. Yasar discloses a production line 20 including a number of processing stations. Razor blade stacks are mounted on a pallet 26 which is mounted on a conveyor 28 that moves the pallet 26 through the processing line 20. *See, e.g. Col. 3, lines 57-64*. It can be seen that when the pallet 26 is moved through the processing station, it is moved horizontally and remains in a vertical position.

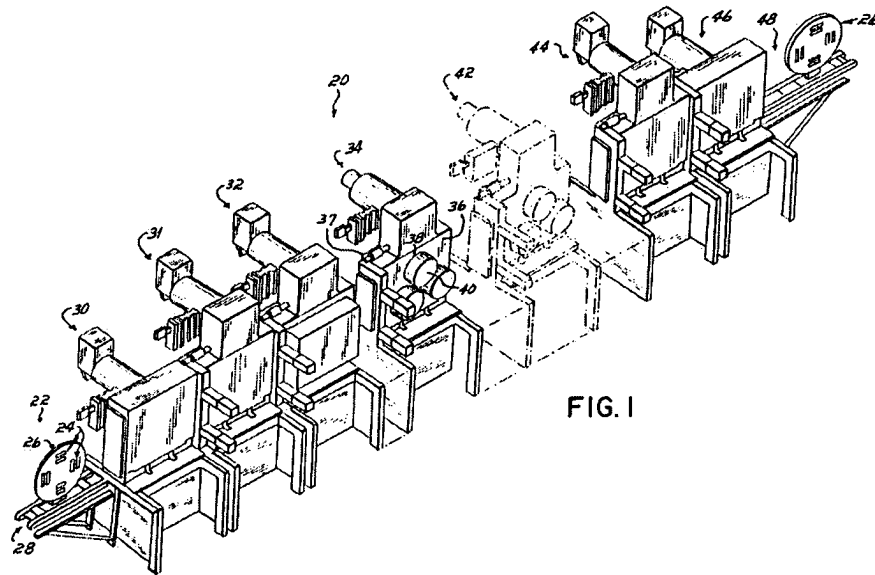


FIG. 1

With reference to Figure 2, illustrated below, the razor blade stacks 60 are mounted to a mounting surface 62 of the pallet 26. The pallet 26 is rotated in a clockwise direction and moves through a chamber 34 having two active side walls 36, 37. The side wall 36 has a sputtering cathode 98, a first ion gun 100, and a second ion gun 102. *See, e.g., Col. 6, lines 15-29.*

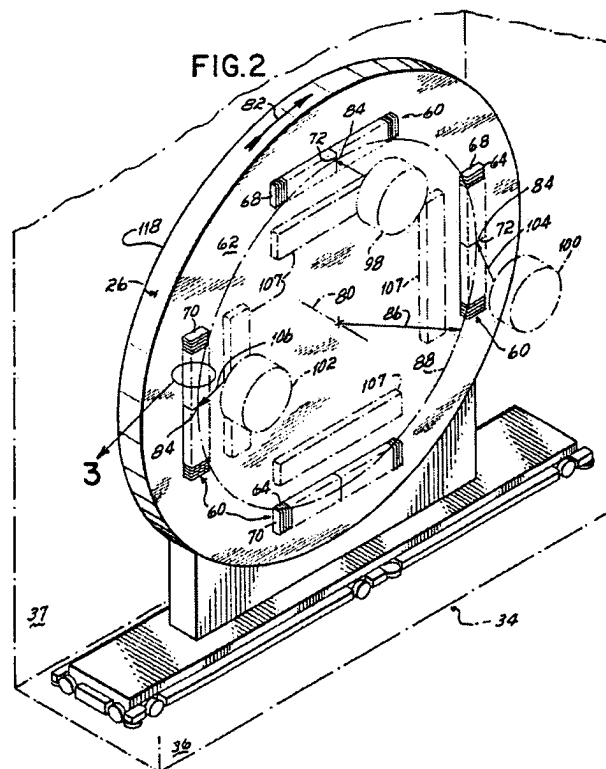


FIG. 2

Each the cathode 98, ion gun 100 and ion gun 102 are all positioned on a side of the pallet 26 and operate *sideward* on a single surface of the pallet, namely the mounting surface 62. A cathode that operates sideward cannot be construed to be a downward coating apparatus positioned *above* the path of substrate travel, as required by claim 1 or an upward coating apparatus positioned beneath the path of substrate travel, as required by claim 39. Likewise, an ion gun that operates sideward cannot be construed to be an ion gun positioned *beneath* the path of substrate travel, also required by both claim 1 and claim 39.

A prima facie case of obviousness has also not been established since there is no suggestion or motivation in the cited references themselves or in the knowledge generally available to one of ordinary skill in the art to modify the references or combine the reference teachings. More specifically, there is no motivation or basis for combining Yasar with any other reference or teaching in the art to solve the problem addressed by the invention. As stated in the specification beginning on page 16, line 37 and ending on page 18, line 24, the following problems are addressed by the invention:

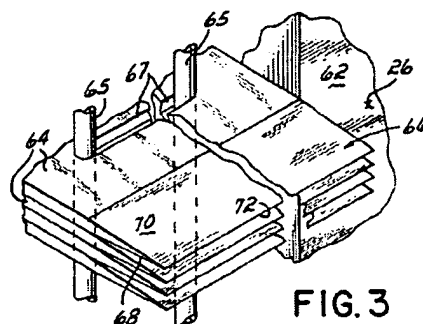
It has been discovered that the bottom surface of a substrate can be coated inadvertently due to overspray from a downward coating operation. For example, when material is sputtered downwardly onto the top surface of a substrate, some of the sputtered material can actually find its way onto the bottom surface of the substrate. This phenomenon has been found to leave unwanted coating on marginal portions of the substrate's bottom surface. This can create an undesirable picture frame effect on the substrate. Further, if a desired coating is subsequently applied to the bottom surface by an upward coating operation, the marginal portions of this surface will end up carrying both the desired coating and the unwanted oversprayed coating, while the central portion of this surface carries only the desired coating. This non-uniformity/picture frame effect can have a variety of adverse effects on the intended coating properties/the desired specifications.

These particular overspray problems can be eliminated by positioning the ion gun 50 further along the path of substrate travel 60 (preferably at a location beyond where the substrate is exposed to film deposition from the downward coating apparatus) than the downward coating apparatus 65. This enables the ion gun 50 to remove from the bottom surface 12 of the substrate 30 oversprayed coating (in some cases, the ion gun is operated

so it also mills away a small thickness of glass from the bottom surface of a glass substrate) that has been inadvertently deposited on marginal portions of the substrate's bottom surface 12 during operation of the downward coating apparatus 65... If an upward coating apparatus 55 is also provided, it is preferably located further along the path of substrate travel 60 than the ion gun 50. This enables the ion gun 50 to remove (substantially if not entirely) from the bottom surface 12 of the substrate 30 oversprayed coating that has been inadvertently deposited on marginal portions of the substrate's bottom surface 12 during operation of the downward coating apparatus 65 before this surface 12 is coated during operation of the upward coating apparatus 55.

A person of skill in the art would not look towards Yasar to solve the problems discussed in this specification since Yasar does not disclose or teach overspray problems. With continued reference to Yasar's Figure 2, razor blade stacks 60 are mounted to a mounting surface 62 of the pallet 26. The cathode 98, ion gun 100 and ion gun 102 all operate directly onto the razor blade stacks 60. Since only the stacks 60 are treated, any coating which does not end up on the stacks would be retained on the surrounding mounting surface 62, and would unlikely find its way to a surface of the pallet opposite to (and behind) this mounting surface. As a result, this opposite surface of the pallet would not be oversprayed with material.

Furthermore, with reference to Yasar's Figure 3, illustrated below, Yasar teaches coating all of the edge sides 68, 70 and edge tips 72 of the razor blades. *See, e.g., Col. 6, lines 33-36.*



Yasar does not teach coating only one surface of a razor blade while maintaining another surface free of coating material. Since all surfaces of the blades are intended to be coated with the same material, the razor blades also would not experience overspray problems.

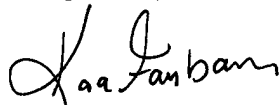
Since Yasar fails to appreciate overspray problems, one of skill in the art seeking to solve the overspray problems would not be motivated to combine any reference or teaching in the art with Yasar. In addition, there is no other motivation in Yasar and/or Krisko which would cause

one in the art to combine these references to achieve the claimed invention. Applicant respectfully requests the Examiner to withdraw the rejections of the claims.

The Examiner objected to claims 10-11 and 43-44 as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and intervening claims. Applicant thanks the Examiner for indication of allowable subject matter. New independent claim 48 incorporates all elements of independent claim 1 and dependent claim 10 and new independent claim 49 incorporates all elements of independent claim 39 and dependent claim 43.

It is submitted that claims of application are in condition for allowance. Favorable consideration and prompt allowance of the application are respectfully requested. The Examiner is invited to telephone the undersigned if the Examiner believes it would be useful to advance prosecution.

Respectfully submitted,



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